

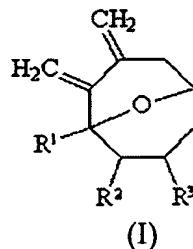
**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:**

Claims 1-8 (Cancelled).

9. (New) An 8-membered carbocyclic compound with diexomethylene groups having the formula (I):



wherein R<sup>1</sup> is a phenyl group, and R<sup>2</sup> and R<sup>3</sup> is each a hydrogen atom, or R<sup>1</sup>, R<sup>2</sup> and R<sup>3</sup> are connected with neighboring substituents to form a 5 to 10-membered aliphatic or aromatic ring.

10. (New) The compound of Claim 9, wherein R<sup>1</sup> is a phenyl group, and R<sup>2</sup> and R<sup>3</sup> is each a hydrogen atom.

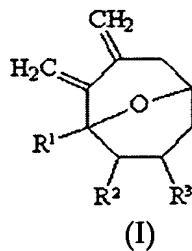
11. (New) The compound of Claim 9, wherein R<sup>1</sup> and R<sup>2</sup> are connected with each other to form a 5 to 10-membered aliphatic or aromatic ring, and R<sup>3</sup> is a hydrogen atom.

12. (New) The compound of Claim 9, wherein R<sup>2</sup> and R<sup>3</sup> are connected with each other to form a 5 to 10-membered aliphatic or aromatic ring, and R<sup>1</sup> is a hydrogen atom.

13. (New) The compound of Claim 12, wherein R<sup>2</sup> and R<sup>3</sup> are connected with each other to form a phenyl ring.

14. (New) The compound of Claim 11, wherein R<sup>1</sup> and R<sup>2</sup> are connected with each other to form a cyclopentyl ring.

15. (New) A method of synthesizing an 8-membered carbocyclic compound with diexomethylene groups having the formula (I), which comprises reacting a trimethylsilanyl methyl-allenol compound by an intramolecular Prins cyclization in the presence of a Lewis acid:



wherein R<sup>1</sup> is a phenyl group, and R<sup>2</sup> and R<sup>3</sup> is each hydrogen atom, or R<sup>1</sup>, R<sup>2</sup> and R<sup>3</sup> are connected with neighboring substituents to form a 5 to 10-membered aliphatic or aromatic ring.

16. (New) The method of Claim 15, wherein said reaction is conducted in the presence of a solvent selected from the group consisting of diethyl ether, tetrahydrofuran, dichloromethane and chloroform.

17. (New) The method of Claim 15, wherein said Lewis acid is trimethylsilyl trifluoromethanesulfonate (TMSOTf) and is used in an amount of 1.0 to 1.5 equivalent of said trimethylsilanyl methyl-allenol compound.

18. (New) The method of Claim 15, which said reaction is conducted at a temperature in the range of from -90°C to 25°C.

19. (New) The method of Claim 18, wherein said reaction is conducted at -78°C.

20. (New) The method of Claim 16, wherein said solvent is diethyl ether.

21. (New) The method of Claim 15, wherein said reaction is conducted for about 3 to 5 hours.

22. (New) The method of Claim 15, wherein the 8-membered carbocyclic compound is 2,3-dimethylene-1phenyl-9-oxa-bicyclo[3.3.1]nonane.

23. (New) The method of Claim 15, wherein the 8-membered carbocyclic compound is 11,12-dimethylene-13-oxa-tricyclo[7.3.1.0<sup>2,7</sup>]trideca-2,4,6-triene.

24. (New) The method of Claim 15, wherein the 8-membered carbocyclic compound is 10,11-dimethylene-12-oxa-tricyclo[6.3.1.0<sup>1,5</sup>]dodecane.

25. (New) The method of preparing an 8-membered carbocyclic compound, which comprises effecting an intramolecular Prins cyclization of a trimethylsilanylmethyl-allenol compound in the presence of a Lewis acid with a yield of at least 78%.

26. (New) The method of Claim 25, wherein said yield is at least 91%.

27. (New) A method of preparing a Diels-Alder reaction product, which comprises subjecting the 8-membered carbocyclic compound of Claim 9, to a Diels-Adler reaction.